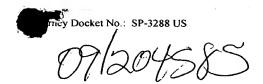# LOCAL AND GLOBAL REGISTER PARTITIONING IN A VLIW PROCESSOR

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ABSTRACT OF THE DISCLOSURE

5   A Very Long Instruction Word (VLIW) processor having a plurality of functional units includes a multi-ported register file that is divided into a plurality of separate register file segments, each of the register file segments being associated to one of the plurality of functional units. The register file segments are partitioned into local registers and global registers. The global registers are read and written by all

10   functional units. The local registers are read and written only by a functional unit associated with a particular register file segment. The local registers and global registers are addressed using register addresses in an address space that is separately defined for a register file segment/ functional unit pair. The global registers are addressed within a selected global register range using the same register addresses for

15   the plurality of register file segment/ functional unit pairs. The local registers in a register file segment are addressed using register addresses in a local register range outside the global register range that are assigned within a single register file segment/ functional unit pair. Register addresses in the local register range are the same for the plurality of register file segment/ functional unit pairs and address registers locally

20   within a register file segment/ functional unit pair.